Scout: A Communication Operating System

Path abstraction: extension of the network through the host OS.
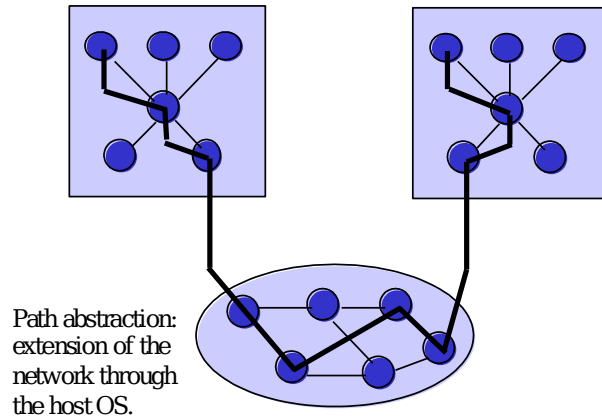
NEW IDEAS

Path-Based Resource Allocation
  Extend Network QoS into Host
  Schedule Memory, Not Just Processor
  Support Fine-Grain Scheduling
  Minimize OS-induced Jitter

CAOS: Compiler-Assisted OS Design
  OS-Specific compiler Optimizations
  Small Compilers (Tools)
  Code Specialization

IMPACT

Demonstrate how to build specialized software for network appliances

Demonstrate how to extend network QoS through host operating system.

Design compiler-based tools that can be used to build fast, portable, correct, and inexpensive system software

SCHEDULE

Implement Scout Prototype on Pentium & Alpha processors

Demonstrate Swarm on Scout

Demonstrate NetTV & NetCAM on Scout

Experiment with scheduling algorithm

Aug 95

Aug 96 — Extend Paths to Support Caching

Aug 97 — Integrate security Architecture into Scout

Aug 98 — Demonstrate security architecture

Aug 99

Evaluate Swarm storage server

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